

Claims

1. A method for stabilizing an antibody in a solution, which comprises adding glycine and citric acid to the antibody.
2. The method according to Claim 1, wherein the method of stabilizing an antibody is suppression of the formation of a soluble association and a chemically degraded product of the antibody in a solution.
3. A method for suppressing the formation of a soluble association of an antibody in a solution, which comprises adding glycine to the antibody.
4. A method for suppressing the formation of a chemically degraded product of an antibody in a solution, which comprises adding citric acid to the antibody.
5. The method according to any one of Claims 1 to 4, wherein concentration of the antibody is at 0.01 to 150 mg/mL.
6. The method according to any one of Claims 1 to 3, wherein concentration of the glycine is at 10 to 30 mg/mL.
7. The method according to any one of Claims 1, 2 and 4, wherein concentration of the citric acid is at 0.1 to 50 mmol/L.

8. The method according to any one of Claims 1 to 7, further comprising a nonionic surfactant.

9. The method according to any one of Claims 1 to 8, wherein the pH of the solution is within the range of 4 to 7.

10. The method according to any one of Claims 1 to 9, wherein the antibody is a humanized antibody or a human antibody.

11. The method according to any one of Claims 1 to 10, wherein the antibody is any one of antibodies to ganglioside GD3 and antibodies to CC chemokine receptor 4 (hereinafter referred to as CCR4).

12. A solution-type antibody preparation in which formation of a soluble association of the antibody is suppressed, comprising glycine and the antibody.

13. A solution-type antibody preparation in which formation of a chemically degraded product of the antibody is suppressed, comprising citric acid and the antibody.

14. A solution-type antibody preparation in which formation of a soluble association, a chemically degraded product and

an insoluble aggregate of the antibody are suppressed, comprising glycine, citric acid and the antibody.

15. The preparation according to any one of Claims 12 to 14, wherein the antibody concentration is at 0.01 to 150 mg/mL.

16. The preparation according to any one of Claims 12, 14 and 15, wherein the glycine concentration is at 10 to 30 mg/mL.

17. The preparation according to any one of Claims 13 to 15, wherein the citric acid concentration is at 0.1 to 50 mmol/L.

18. The preparation according to any one of Claims 12 to 17, further comprising a nonionic surfactant.

19. The preparation according to any one of Claims 12 to 18, wherein the pH of the solution is in the range of 4 to 7.

20. The preparation according to any one of Claims 12 to 19, wherein the antibody is a humanized antibody or a human antibody.

21. The preparation according to any one of Claims 12 to 20, wherein the antibody is any one of antibodies to ganglioside GD3 and antibodies to CCR4.

22. An agent for suppressing formation of a soluble association of an antibody in a solution, which comprises glycine as an active ingredient.

23. An agent for suppressing formation of a chemically degraded product of an antibody in a solution, which comprises citric acid as an active ingredient.

24. A stabilizing agent for an antibody, which comprises glycine and citric acid as active ingredient.

25. The stabilizing agent for an antibody according to Claim 24, wherein the stabilization of the antibody is suppression of the formation of a soluble association, a chemically degraded product and an insoluble aggregate of the antibody in a solution.